

[Book] Pocket Guide To Chemical Engineering Free

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Pocket Guide to Chemical Engineering-Carl Branan 1999 Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day design, operations, and equipment problems.

The AIChE Pocket Handbook-American Institute of Chemical Engineers 1985

Niosh Pocket Guide to Chemical Hazards-Niosh 2012-06-01 The NIOSH Pocket Guide to Chemical Hazards presents information taken from the NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards, from National Institute for Occupational Safety and Health (NIOSH) criteria documents and Current Intelligence Bulletins, and from recognized references in the fields of industrial hygiene, occupational medicine, toxicology, and analytical chemistry. The information is presented in tabular form to provide a quick, convenient source of information on general industrial hygiene practices. The information in the Pocket Guide includes chemical structures or formulas, identification codes, synonyms, exposure limits, chemical and physical properties, incompatibilities and reactivities, measurement methods, respirator selections, signs and symptoms of exposure, and procedures for emergency treatment.

Scaling Chemical Processes-Jonathan Worstell 2016-10-27 Scaling Chemical Processes: Practical Guides in Chemical Engineering is one of a series of short texts that each provides a focused introductory view on a single subject. The full library spans the main topics in the chemical process industries for engineering professionals who require a basic grounding in various related topics. They are 'pocket publications' that the professional engineer can easily carry with them or access electronically while working. Each text is highly practical and applied, and presents first principles for engineers who need to get up to speed in a new area fast. The focused facts provided in each guide will help you converse with experts in the field, attempt your own initial troubleshooting, check calculations, and solve rudimentary problems. This book discusses scaling chemical processes from a laboratory through a pilot plant to a commercial plant. It bases scaling on similarity principles and uses dimensional analysis to derive the dimensionless parameters necessary to ensure a successful chemical process development program. This series is fully endorsed and co-branded by the IChemE, and they help to promote the series. Offers practical, short, concise information on the basics to help you get an answer or teach yourself a new topic quickly Includes industry examples to help you solve real world problems Provides key facts for professionals in convenient single subject volumes Discusses scaling chemical processes from a laboratory through a pilot plant to a commercial plant

Rules of Thumb for Chemical Engineers-Carl Branan 2002 The most complete guide of its kind, this is the standard handbook for chemical and process engineers. All new material on fluid flow, long pipe, fractionators, separators and accumulators, cooling towers, gas treating, blending, troubleshooting field cases, gas solubility, and density of irregular solids. This substantial addition of material will also include conversion tables and a new appendix, "Shortcut Equipment Design Methods." This convenient volume helps solve field engineering problems with its hundreds of common sense techniques, shortcuts, and calculations. Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day design, operations, and equipment problems.

Quick Selection Guide to Chemical Protective Clothing-Krister Forsberg 2014-05-16 Quick Selection Guide to Chemical Protective Clothing provides the reader with the latest information on Selection, Care and Use of Chemical Protective garments and gloves. Topics in the widely-used reference guide include Selection and Use of Chemical Protective Clothing, Chemical Index, Selection Recommendations, Glossary, Standards for Chemical Protective Clothing, Manufactures of Chemical Protective Clothing and European requirements for chemical resistant gloves. The key feature of the book is the color-coded selection recommendations. The red, yellow or green indications are highly appreciated by the users. This sixth edition of the Quick Selection Guide to Chemical Protective Clothing has been updated, to include approximately 1,000 chemicals/chemical brands or mixture of chemicals more than twice the information provided in the original edition. The performance of 9 generic materials and 32 proprietary barriers are compared against the 21 standard test chemicals listed in ASTM F1001. The color-coded recommendations against the broader list of materials now contain 27 representative barrier materials. This best selling pocket guide is the an essential field source for HazMat teams, spill responder, safety professionals, chemists and chemical engineers, industrial hygienists, supervisors, purchase agents, salespeople and other users of chemical protective clothing.

Solid-Liquid Filtration-Barry Perlmutter 2015-02-06 Practical Guides in Chemical Engineering are a cluster of short texts that each provides a focused introductory view on a single subject. The full library spans the main topics in the chemical process industries that engineering professionals require a basic understanding of. They are 'pocket publications' that the professional engineer can easily carry with them or access electronically while working. Each text is highly practical and applied, and presents first principles for engineers who need to get up to speed in a new area fast. The focused facts provided in each guide will help you converse with experts in the field, attempt your own initial troubleshooting, check calculations, and solve rudimentary problems. Solid-Liquid Filtration covers the basic principles and mechanisms of filtration, filtration testing including filter aids and filter media, types of filtration systems, selection of filtration systems and typical operating and troubleshooting approaches. This guide also discusses general applications and tips for process filtration and can be utilized by process engineers as a framework for "idea-generation when analyzing filtration for an operating bottleneck issue or a new process development problem. Practical, short, concise information on the basics will help you get an answer or teach yourself a new topic quickly Supported by industry examples to help you solve a real world problem Single subject volumes provide key facts for professionals

Injection Molding Handbook-D.V. Rosato 2012-12-06 This third edition has been written to thoroughly update the coverage of injection molding in the World of Plastics. There have been changes, including extensive additions, to over 50% of the content of the second edition. Many examples are provided of processing different plastics and relating the results to critical factors, which range from product design to meeting performance requirements to reducing costs to zero-defect targets. Changes have not been made that concern what is basic to injection molding. However, more basic information has been added concerning present and future developments, resulting in the book being more useful for a long time to come. Detailed explanations and interpretation of individual subjects (more than 1500) are provided, using a total of 914 figures and 209 tables. Throughout the book there is extensive information on problems and solutions as well as extensive cross referencing on its many different subjects. This book represents the ENCYCLOPEDIA on IM, as is evident from its extensive and detailed text that follows from its lengthy Table of CONTENTS and INDEX with over 5200 entries. The worldwide industry encompasses many hundreds of useful plastic-related computer programs. This book lists these programs (ranging from operational training to product design to molding to marketing) and explains them briefly, but no program or series of programs can provide the details obtained and the extent of information contained in this single sourcebook.

Dimensional Analysis-Jonathan Worstell 2014-03-05 Practical Guides in Chemical Engineering are a cluster of short texts that each provides a focused introductory view on a single subject. The full library spans the main topics in the chemical process industries that engineering professionals require a basic understanding of. They are 'pocket publications' that the professional engineer can easily carry with them or access electronically while working. Each text is highly practical and applied, and presents first principles for engineers who need to get up to speed in a new area fast. The focused facts provided in each guide will help you converse with experts in the field, attempt your own initial troubleshooting, check calculations, and solve rudimentary problems. Dimensional Analysis provides the foundation for similitude and for up and downscaling. Aeronautical, Civil, and Mechanical Engineering have used Dimensional Analysis profitably for over one hundred years. Chemical Engineering has made limited use of it due to the complexity of chemical processes. However, Chemical Engineering can now employ Dimensional Analysis widely due to the free-for-use matrix calculators now available on the Internet. This book shows how to apply matrices to Dimensional Analysis. Practical, short, concise information on the basics will help you get an answer or teach yourself a new topic quickly Supported by industry examples to help you solve a real world problem Single subject volumes provide key facts for professionals

Mechanical Engineering Formulas Pocket Guide-Tyler G. Hicks 2003-02-19 THOUSANDS OF MECHANICAL ENGINEERING FORMULAS IN YOUR POCKET AND AT YOUR FINGERTIPS! This portable find-it-now reference contains thousands of indispensable formulas mechanical engineers need for day-to-day practice. It's all here in one compact resource -- everything from HVAC to stress and vibration equations -- measuring fatigue, bearings, gear design, simple mechanics, and more. Compiled by a professional engineer with many years' experience, the Pocket Guide includes common conversions, symbols, and vital calculations data. You'll find just what you need to solve your problems quickly, easily, and accurately.

Computational Techniques for Chemical Engineers-C. Storey 2013-10-22 Computational Techniques for Chemical Engineers offers a practical guide to the chemical engineer faced with a problem of computing. The computer is a servant not a master, its value depends on the instructions it is given. This book aims to help the chemical engineer in the right choice of these instructions. The text begins by outlining the principles of operation of digital and analogue computers and then discussing the difficulties which arise in formulating a problem for solution on such a machine. This is followed by separate chapters on digital computers and their programming; the use of digital computers in chemical engineering design work; optimization techniques and their application in the selection of optimum designs; the solution of sets of non-linear algebraic equations via hill-climbing; and determination of equilibrium compositions by minimization of Gibbs free energy. Subsequent chapters discuss the solution of partial or simultaneous differential equations; parameter estimation in differential equations; continuous systems; and analogue computers.

Industrial Machinery Repair-Ricky Smith 2003-08-18 Industrial Machinery Repair provides a practical reference for practicing plant engineers, maintenance supervisors, physical plant supervisors and mechanical maintenance technicians. It focuses on the skills needed to select, install and maintain electro-mechanical equipment in a typical industrial plant or facility. The authors focuses on "Best Maintenance Repair Practices" necessary for maintenance personnel to keep equipment operating at peak reliability and companies functioning more profitably through reduced maintenance costs and increased productivity and capacity. A number of surveys conducted in industries throughout the United States have found that 70% of equipment failures are self-induced. If the principles and techniques in this book are followed, it will result in a serious reduction in "self induced failures". In the pocketbook format, this reference material can be directly used on the plant floor to aid in effectively performing day-to-day duties. Data is presented in a concise, easily understandable format to facilitate use in the adverse conditions associated with the plant floor. Each subject is reduced to it simplest terms so that it will be suitable for the broadest range of users. Since this book is not specific to any one type of industrial plant and is useful in any type of facility. The new standard reference book for industrial and mechanical trades Accessible pocketbook format facilitates on-the-job use Suitable for all types of plant facilities

Introduction to Chemical Engineering Computing-Bruce A. Finlayson 2014-03-05 Step-by-step instructions enable chemical engineers to masterkey software programs and solve complex problems Today, both students and professionals in chemical engineering must solve increasingly complex problems dealing with refineries, fuel cells, microreactors, and pharmaceutical plants, to name a few. With this book as their guide, readers learn to solve these problems using their computers and Excel, MATLAB, Aspen Plus, and COMSOL Multiphysics. Moreover, they learn how to check their solutions and validate their results to make sure they have solved the problems correctly. Now in its Second Edition, Introduction to Chemical Engineering Computing is based on the author's firsthand teaching experience. As a result, the emphasis is on problem solving. Simple introductions help readers become conversant with each program and then tackle a broad range of problems in chemical engineering, including: Equations of state Chemical reaction equilibria Mass balances with recycle streams Thermodynamics and simulation of mass transfer equipment Process simulation Fluid flow in two and three dimensions All the chapters contain clear instructions, figures, and examples to guide readers through all the programs and types of chemical engineering problems. Problems at the end of each chapter, ranging from simple to difficult, allow readers to gradually build their skills, whether they solve the problems themselves or inteams. In addition, the book's accompanying website lists the core principles learned from each problem, both from a chemical engineering and a computational perspective. Covering a broad range of disciplines and problems within chemical engineering, Introduction to Chemical Engineering Computing is recommended for both undergraduate and graduate students as well as practicing engineers who want to know how to choose the right computer software program and tackle almost any chemical engineering problem.

Pocket Guide to Rheology: A Concise Overview and Test Prep for Engineering Students-Xian Wen Ng 2019-11-09 This pocket guide serves as a supplementary learning resource to help students deconstruct challenging problems in the topic of rheology commonly encountered in engineering examinations, as well as those in related courses such as in the STEM disciplines. The book is organized into a series of 30 problems and worked solutions, with problems written in a format typical of examination questions. This book offers students ample practice in solving problems which will help sharpen their skills in applying abstract theoretical concepts to solving real-life problems. The presentation of detailed and comprehensive step-by-step explanations in each problem will also guide students in the thought process towards arriving at final solutions. The balanced mix of both numerical and open-ended problems in this book ensures students gain a well-rounded understanding of the topic, with the dual ability to handle detailed mathematical analysis as well as relate the significance of desktop problem-solving to the larger real world context.

Handbook of Emergency Response to Toxic Chemical Releases-Nicholas P. Cheremisinoff 1995-12-31 This handbook has been prepared as a working reference for the safety officer, the environmental engineer, and the consultant. For the safety officer, this handbook provides detailed guidelines and instructions in preparing Right-to-Know Reporting Audits, establishing programs and training employees on hazard awareness, and developing and implementing emergency response programs in the workplace and at off-site operations. For the environmental engineer, this handbook provides extensive technical data on toxic chemical properties and detailed instructional aid on how to properly prepare toxic chemical release inventory reporting. For the environmental consultant, an extensive overview of corrective action technologies is provided.

Chemical Operator's Portable Handbook-Jack T. Ballinger 1999 Pocket ALL the chemical process answers you'll ever need! This "take-it-anywhere" Handbook gives you fast answers to virtually every conceivable question about chemicals, processes, safety, regulations, and industrial practices. It features up-to-date information on regulations and safety, including correct methods for handling chemicals and compressed gasses; best practice methods for the lab and on-line in the plant; information on process operations, both batch and continuous, with details on process analyzers, microprocessors, and computer applications; physical properties and determinations, plus help with pressure, vacuum, and plumbing issues; review of chemical calculations; energy, work, and power problems; mathematical formulas and applications; conversion tables; statistical quality control and charting methods, plus guidance on log books and batch records; first aid procedures and emergency treatment. This rich source of reference material includes a glossary of process industry terms, important sourcebooks and governmental contacts.

Human Factors in the Health Care Setting-Advanced Life Support Group (ALSG) 2012-11-28 Human factors relates to the interaction of humans and technical systems. Human factors engineering analyzes tasks, considering the components in relation to a number of factors focusing particularly on human interactions and the interface between people working within systems. This book will help instructors teach the topic of human factors.

Corrosion and Materials Selection-Alireza Bahadori 2014-06-24 The petroleum and chemical industries contain a wide variety of corrosive environments, many of which are unique to these industries. Oil and gas production operations consume a tremendous amount of iron and steel pipe, tubing, pumps, valves, and sucker rods. Metallic corrosion is costly. However, the cost of corrosion is not just financial. Beyond the huge direct outlay of funds to repair or replace corroded structures are the indirect costs - natural resources, potential hazards, and lost opportunity. Wasting natural resources is a direct contradiction to the growing need for sustainable development. By selecting the correct material and applying proper corrosion protection methods, these costs can be reduced, or even eliminated. This book provides a minimum design requirement for consideration when designing systems in order to prevent or control corrosion damage safely and economically, and addresses: • Corrosion problems in petroleum and chemical industries • Requirements for corrosion control • Chemical control of corrosive environments • Corrosion inhibitors in refineries and petrochemical plants • Materials selection and service life of materials • Surface preparation, protection and maintainability • Corrosion monitoring - plant inspection techniques and laboratory corrosion testing techniques Intended for engineers and industry personnel working in the petroleum and chemical industries, this book is also a valuable resource for research and development teams, safety engineers, corrosion specialists and researchers in chemical engineering, engineering and materials science.

Adiabatic Fixed-Bed Reactors-Jonathan Worstell 2014-08-19 Practical Guides in Chemical Engineering are a cluster of short texts that each provides a focused introductory view on a single subject. The full library spans the main topics in the chemical process industries that engineering professionals require a basic understanding of. They are 'pocket publications' that professional engineers can easily carry with them or access electronically while working. Each text is highly practical and applied, and presents first principles for engineers who need to get up to speed in a new area fast. The focused facts provided in each guide will help you converse with experts in the field, attempt your own initial troubleshooting, check calculations, and solve rudimentary problems. Adiabatic Fixed-bed Reactors covers the fundamentals of fixed-bed reactors, including various types and their physical properties. Applications of each device type are discussed, as well as trouble-shooting Solid-supported Catalysts. This text is ideal for any engineer who is new to working with fixed-bed reactors and needs to know the basics quickly and easily. Practical, short, concise information on the basics will help you get an answer or teach yourself a new topic quickly Supported by industry examples to help you solve a real world problem Single subject volumes provide key facts for professionals

Pocket Guide to Stress Testing-Dennis A. Tighe 2019-11-25 The go-to handbook for those performing and analysing cardiac stress tests The stress test is key to the clinical evaluation and management of patients with known or potential cardiovascular disease. By measuring the heart's ability to respond to external stress, it can provide vital insights into the general physical condition of patients, highlighting abnormalities in blood flow, risk of coronary artery disease, and more. The Pocket Guide to Stress Testing gives cardiology professionals a complete breakdown of this everyday procedure that they can carry with them and consult on the go. This second edition has been fully revised to reflect the most up-to-date information available on the best approaches to conducting and interpreting various forms of stress test. With chapters spanning topics such as testing guidelines, nuclear imaging techniques, and emergency and aftercare protocols, the clear and practical contents cover all aspects of the subject. This essential new text includes: A complete overview of exercise stress testing, covering indications, protocols, preparation, and interpretation Guidelines for the standard treadmill test, as well as for the various pharmacological stress tests for patients unable to complete an exercise ECG test An extensive list of references and reading suggestions to help trainees to expand

their knowledge End-of-chapter summaries and new tables and illustrations As the field of cardiology continues to change and develop apace, this new edition of The Pocket Guide to Stress Testing provides physicians, trainee cardiologists, and cardiac nurses with a reliable, up-to-date resource for use in everyday practice.

Pocket Guide to Instrumentation-R. R. Lee 1999-03-11 This handy guide helps readers quickly identify instrumentation. It includes data on control devices, monitors, and batteries, and a chapter on bar coding as a control procedure.

Pocket Guide to Instrumentation is a handy guide that helps simplify procurement and handling of instrumentation equipment and accessories. It provides materials personnel with concise, straightforward information for identifying and tracking the many types of control devices, fittings, valves, etc. that accompany instrumentation projects. It also includes data on cables, monitors, and batteries, and a chapter on how to use bar coding as a control procedure. Ideal for engineers, designers, and technical and clerical personnel involved in material procurement and control, this compact reference is packed with figures and tables that describe a wide range of standard instrumentation items. Ideal for engineers, designers, and technical and clerical personnel involved in material procurement and control, this compact reference is packed with figures and tables that describe a wide range of standard instrumentation items.

Pocket Guide to Fungal Infection-Malcolm D. Richardson 2008-05-12 The Pocket Guide to Fungal Infection presents, in a convenient and practical format, the major features of fungal infections in humans, providing visual information for each pathogen and the infections they cause. The second edition has been extensively revised. In each chapter the clinical manifestations and management sections have been revised and updated to include recently developed antifungal drugs. New sections include; Emerging yeast and filamentous fungal pathogens Antifungal susceptibility testing Antifungal assays Molecular methods in medical mycology Mycological aspects of the indoor environment. Medical Mycology lends itself to illustration and as such there are over 40 additional images in this edition. Recent references have been added and the list of online resources has been updated. This Guide presents a succinct account of the clinical manifestations, laboratory diagnosis and management of fungal infections world-wide. It is an ideal publication for those who encounter fungal infections as part of their everyday practice, including medical microbiologists, infectious disease specialists, dermatologists and general practitioners.

Structural Composite Materials-F. C. Campbell 2010 This book deals with all aspects of advanced composite materials; what they are, where they are used, how they are made, their properties, how they are designed and analyzed, and how they perform in-service. It covers both continuous and discontinuous fiber composites fabricated from polymer, metal, and ceramic matrices, with an emphasis on continuous fiber polymer matrix composites.

Introduction to Process Engineering and Design-Shuchen B Thakore Introduction to Process Engineering and Design covers basic principles to design alternate systems, develop process diagrams and select the best alternative to be adopted. Multiple industrial examples provided in the book will enhance the skills of the readers for innovative designs. Salient Features: • Focuses on process design of chemical plants and equipment • State-of-the-art technique of supercritical extraction, reactive distillation, short path distillation discussed • Process Flow-charts are provided throughout the book

Analysis, Synthesis and Design of Chemical Processes-Richard Turton 2008-12-24 The Leading Integrated Chemical Process Design Guide: Now with New Problems, New Projects, and More More than ever, effective design is the focal point of sound chemical engineering. Analysis, Synthesis, and Design of Chemical Processes, Third Edition, presents design as a creative process that integrates both the big picture and the small details—and knows which to stress when, and why. Realistic from start to finish, this book moves readers beyond classroom exercises into open-ended, real-world process problem solving. The authors introduce integrated techniques for every facet of the discipline, from finance to operations, new plant design to existing process optimization. This fully updated Third Edition presents entirely new problems at the end of every chapter. It also adds extensive coverage of batch process design, including realistic examples of equipment sizing for batch sequencing; batch scheduling for multi-product plants; improving production via intermediate storage and parallel equipment; and new optimization techniques specifically for batch processes. Coverage includes Conceptualizing and analyzing chemical processes: flow diagrams, tracing, process conditions, and more Chemical process economics: analyzing capital and manufacturing costs, and predicting or assessing profitability Synthesizing and optimizing chemical processing: experience-based principles, BFD/PFD, simulations, and more Analyzing process performance via I/O models, performance curves, and other tools Process troubleshooting and “debottlenecking” Chemical engineering design and society: ethics, professionalism, health, safety, and new “green engineering” techniques Participating successfully in chemical engineering design teams Analysis, Synthesis, and Design of Chemical Processes, Third Edition, draws on nearly 35 years of innovative chemical engineering instruction at West Virginia University. It includes suggested curricula for both single-semester and year-long design courses; case studies and design projects with practical applications; and appendixes with current equipment cost data and preliminary design information for eleven chemical processes—including seven brand new to this edition.

Rules of Thumb for Chemical Engineers-Carl Branan 2002 The most complete guide of its kind, this is the standard handbook for chemical and process engineers. All new material on fluid flow, long pipe, fractionators, separators and accumulators, cooling towers, gas treating, blending, troubleshooting field cases, gas solubility, and density of irregular solids. This substantial addition of material will also include conversion tables and a new appendix, “Shortcut Equipment Design Methods.” This convenient volume helps solve field engineering problems with its hundreds of common sense techniques, shortcuts, and calculations. Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day design, operations, and equipment problems.

Handbook of Energy Engineering Calculations-Tyler G. Hicks 2011-07-29 SOLVE ENERGY PROBLEMS QUICKLY AND ACCURATELY Filled with step-by-step procedures for performing hundreds of calculations, this practical guide helps you solve a variety of applied energy engineering design and operating problems. Handbook of Energy Engineering Calculations features worked-out examples and enables you to obtain accurately results with minimum time and effort. Calculation procedures emphasize greenhouse gas and carbon dioxide emissions control as well as energy conservation and reuse. This is an invaluable, time-saving resource for anyone involved in energy engineering. Comprehensive coverage includes: Energy conversion engineering Steam power generation Gas-turbine power generation Internal-combustion engine energy analysis Nuclear energy engineering Hydroelectric energy power plants Wind power energy design and application Solar power energy application and usage Geothermal energy engineering Ocean energy engineering Heat transfer and energy conservation Fluid transfer engineering Interior climate control energy economics Energy conservation and environmental pollution control

Rules of Thumb for Chemical Engineers-Stephen M Hall 2012-07-27 Rules of Thumb for Chemical Engineers, Fifth Edition, provides solutions, common sense techniques, shortcuts, and calculations to help chemical and process engineers deal with practical on-the-job problems. It discusses physical properties for proprietary materials, pharmaceutical and biopharmaceutical sector heuristics, and process design, along with closed-loop heat transfer systems, heat exchangers, packed columns, and structured packings. Organized into 27 chapters, the book begins with an overview of formulae and data for sizing piping systems for incompressible and compressible flow. It then moves to a discussion of design recommendations for heat exchangers, practical equations for solving fractionation problems, along with design of reactive absorption processes. It also considers different types of pumps and presents narrative as well as tabular comparisons and application notes for various types of fans, blowers, and compressors. The book also walks the reader through the general rules of thumb for vessels, how cooling towers are sized based on parameters such as return temperature and supply temperature, and specifications of refrigeration systems. Other chapters focus on pneumatic conveying, blending and agitation, energy conservation, and process modeling. Chemical engineers faced with fluid flow problems will find this book extremely useful. Rules of Thumb for Chemical Engineers brings together solutions, information and work-arounds that engineers in the process industry need to get their job done. New material in the Fifth Edition includes physical properties for proprietary materials, six new chapters, including pharmaceutical, biopharmaceutical sector heuristics, process design with simulation software, and guidelines for hazardous materials and processes Now includes SI units throughout alongside

Pocket Guide to Biotechnology and Genetic Engineering-Rolf D. Schmid 2003-03-14 Biotechnology and genetic engineering are the key technologies of the 21st century. They allow the findings in cell biology and genetics, biochemistry and microbiology, biochemical engineering and bioinformatics to be applied to health care, agriculture, food production, environmental protection and alternative production methods for chemicals. This handy book provides broad coverage of the relevant facts on products, methods and applications. It discusses the opportunities and risks involved in these new technologies, combined with ethical, economic and safety considerations. Instructive and attractive color illustrations as well as an excellent didactic approach throughout make this a perfect introduction to the field -- for professionals and students alike.

IMEchE Engineers' Databook-Clifford Matthews 2004-10-22 This book provides a concise and useful source of up-to-date essential information for the student or practising engineer.

Handbook of Polymers-George Wypych 2016-02-05 Handbook of Polymers, Second Edition, presents normalized, up-to-date polymer data in a consistent and easily referenceable layout. This new edition represents an update of the available data, including new values for many commercially available products, verification of existing data, and removal of older data where it is no longer useful. The book includes data on all major polymeric materials used by the plastics industry and all branches of the chemical industry, as well as specialty polymers used in the electronics, pharmaceutical, medical, and space fields. The entire scope of the data is divided into sections to make data comparison and search easy, including synthesis, physical, mechanical, and rheological properties, chemical resistance, toxicity and environmental impact, and more. The data enables engineers and materials scientists to solve practical problems, be that in applications, research and development, or legislation. The most current grades of materials have been selected to provide readers with information that is characteristic of currently available products. Includes practical data on the most widely used polymers for engineers and materials scientists in design, manufacture, and applications research Presents data on polymer synthesis, properties, chemical resistance, processing, and their related environmental impacts Provides a comprehensive update to the data, including new information and the verification of existing datasets

Batch and Semi-batch Reactors-Jonathan Worstell 2015-02-26 Batch and Semi-batch Reactors: Practical Guides in Chemical Engineering is a cluster of short texts that provide a focused introductory view on a single subject. The full library presents a basic understanding of the main topics in the chemical process industries, allowing engineering professionals to quickly access information. Each ‘pocket publication’ can be easily carried or accessed electronically, giving users a highly practical and applied presentation of the first principles engineers need know on a moment’s notice. The focused facts provided in each guide help users converse with experts in the field, attempt their own initial troubleshooting, check calculations, and solve rudimentary problems. Practical, short, concise information on the basics in a variety of topics related to chemical engineering Supported by industry examples to help readers solve real-world problems Single subject volumes provide key facts for professionals Pocket publication format can be easily carried or accessed electronically

Engineers' Guide to Rotating Equipment-Clifford Matthews 2002-02-15 This handy reference source, is a companion volume to the author’s Engineers’ Guide to Pressure Equipment. Heavily illustrated, and containing a wealth of useful data, it offers inspectors, engineers, operatives, and those maintaining engineering equipment a one stop everyday package of information. It will be particularly helpful in guiding users through the legislation that regulates this field. Legislation has very important implications for works inspection and in-service inspection of mechanical plant. An Engineers’ Guide to Rotating Equipment is packed with information, technical data, figures, tables and checklists. Details of relevant technical standards, the legislation and Accepted Codes of Practice (AcoPs) published by various bodies such as HSE and SAFed, are provided in addition to a number of website addresses and contact details. COMPLETE CONTENTS: Engineering fundamentals Bending, torsion, and stress Motion and dynamics Rotating machine fundamentals: Vibration, balancing, and noise Machine elements Fluid mechanics Centrifugal pumps Compressors and turbocompressors Prime movers Draught plant Basic mechanical design Materials of construction The machinery directives Organisations and associations.

Engineering Formulas-Kurt Gieck 2006-06-26 Presents an engineering guide containing a variety of mathematical and technical formulas and equations.

Chemical Engineering Design-Gavin Towler, Ph.D. 2013 Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

Basic Bioscience Laboratory Techniques-Philip L.R. Bonner 2011-08-24 This unique, practical, pocket-sized guide and reference provides every first year bioscience student with all they need to know to prepare reagents correctly and perform fundamental laboratory techniques. It also helps them to analyse their data and present their findings, in addition to directing the reader, via a comprehensive list of references, to relevant further reading All of the core bioscience laboratory techniques are covered including: basic calculations and the preparation of solutions; aseptic techniques; microscopy techniques; cell fractionation ; spectrophotometry; chromatography of small and large molecules: electrophoresis of proteins and nucleic acids and data analysis. In addition the book includes clear, relevant diagrams and worked examples of calculations. In short, this is a ‘must-have’ for all first year bioscience students struggling to get to grips with this vitally important element of their course.

Pocket Reference- 2011

Pocket Guide to Echocardiography-Andro G. Kacharava 2012-07-25 With its easy accessibility, low cost, and ability to deliver essential bedside information about the cardiac structure and function, echocardiography has become one of the most relied-upon diagnostic tools in clinical medicine. As a result, more clinicians than ever before must be able to accurately interpret echocardiographic information in order to administer appropriate treatment. Based on the authors’ experience teaching echocardiography in busy clinical settings, this new pocketbook provides reliable guidance on everyday clinical cardiac ultrasound and the interpretation of echocardiographic images. It has been designed to help readers develop a stepwise approach to the interpretation of a standard transthoracic echocardiographic study and teach how to methodically gather and assemble the most important information from each of the standard echocardiographic views in order to generate a complete final report of the study performed. What’s included: • A summary of TTE examination protocol and a comprehensive listing of useful formulas and normal values • Atrial and ventricular dimensions, LV and RV systolic function, LV diastolic patterns • Echocardiographic findings in the most commonly encountered cardiac diseases and disorders, including various cardiomyopathies, cardiac tamponade, constrictive pericarditis, valvular heart disease, pulmonary hypertension, infective endocarditis, and congenital heart disease • Companion website with video clips and over 70 self-assessment questions Packed with essential information and designed for quick look-up, this pocketbook will be of great assistance for anyone who works in busy clinical settings and who needs a ready and reliable guide to interpreting echocardiographic information to help deliver optimal patient care.

Handbook of Solvents, Volume 2-George Wypych 2019-02-21 Handbook of Solvents, Volume Two: Use, Health, and Environment, Third Edition, contains the most comprehensive information ever published on solvents and an extensive analysis of the principles of solvent selection and use. The book is intended to help formulators select ideal solvents, safety coordinators protect workers, and legislators and inspectors define and implement public safeguards on solvent usage, handling and disposal. The book begins with a discussion of solvent use in over 30 industries, which are the main consumers of solvents. The analysis is conducted based on available data and contains information on the types of solvents used and potential problems and solutions. In addition, the possibilities for solvent substitution are also discussed, with an emphasis on supercritical solvents, ionic liquids, ionic melts, and agriculture-based products. Assists in solvent selection by providing key information and insight on environmental and safety issues Provides essential best practice guidance for human health considerations Discusses the latest advances and trends in solvent technology, including modern methods of cleaning contaminated soils, selection of gloves, suits and respirators

Handbook of Thermoplastics, Second Edition-Olagoke Olabisi 2016-02-03 This new edition of the bestselling Handbook of Thermoplastics incorporates recent developments and advances in thermoplastics with regard to materials development, processing, properties, and applications. With contributions from 65 internationally recognized authorities in the field, the second edition features new and updated discussions of several topics, including: Polymer nanocomposites Laser processing of thermoplastic composites Bioplastics Natural fiber thermoplastic composites Materials selection Design and application Additives for thermoplastics Recycling of thermoplastics Regulatory and legislative issues related to health, safety, and the environment The book also discusses state-of-the-art techniques in science and technology as well as environmental assessment with regard to the impact of thermoplastics. Each chapter is written in a review format that covers: Historical development and commercialization Polymerization and process technologies Structural and phase characteristics in relation to use properties The effects of additives on properties and applications Blends, alloys, copolymers, and composites derived from thermoplastics Applications Giving thorough coverage of the most recent trends in research and practice, the Handbook of Thermoplastics, Second Edition is an indispensable resource for experienced and practicing professionals as well as upper-level undergraduate and graduate students in a wide range of disciplines and industries.

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